

DATA VALIDATION REPORT

1. Introduction

This should include a brief summary of the number and type of samples.

- This validation applies to number of samples, organic/inorganic analyses, and media (soil/water); i.e. 73 inorganic soil samples and 16 inorganic water samples for facility name project date of SAP. From the total of 73 soil samples there were 4 field duplicates. Within the 16 water samples there were 2 soil rinsate blanks, 2 water rinsate blanks and 1 duplicate.
- Validation procedures used are generally consistent with:
 - ☐ EPA CLP National Functional Guidelines for Inorganic Data Review
 - ☐ Work Plan, Phase I Remedial Investigation (*may need to be modified based upon specific facility work*), Field Sampling and Quality Assurance Project Plan for facility name
 - ☐ Other
- Overall level of validation:
 - ☐ Contract Laboratory Program (CLP)
 - ☐ Standard
 - ☐ Visual

2. Deliverables

- All laboratory document deliverables were present as specified in the CLP-Statement of Work (CLP-SOW), EPA, 1993 and/or the project contract.
 - ☐ Yes
 - ☐ No
- All documentation of field procedures was provided as required.
 - ☐ Yes
 - ☐ No

3. Condition of Samples Upon Receipt

Review the sample receipt checklist from the laboratory and note any problems.

- Temperature of samples
- VOA vials had zero headspace
- pH of samples
- Proper container/bottle used
- Container intact
- Other

4. Field Quality Control Samples

Blanks: Please note that the highest blank value associated with any particular analyte is the blank value used for the flagging process.

DI, trip, rinsate, or any other field blanks have been carried out at the proper frequency.

- ☐ Yes
- ☐ No
- ☐ NA

Reported results on the field blanks are less than the contract required detection limits (CRDL) or the project required detection limits (PRDL) if project detection limits have been specified.

- ☐ Yes
- ☐ No

Explain the discrepancies, if any are noted. For example:

The DI blank was below the reporting limit of 0.05 (mg/l). However, the reporting limit was not in agreement with the PRDL of 0.003 (mg/l). The consultant requested that the lab rerun the sample to meet the PRDL, but the lab was unable to locate the sample.

Notes: When an analyte is detected in a blank, associated results up to 5 (concentration above a blank concentration that is flagged depends upon the analysis being performed) times the blank level are flagged to indicate that the results may be biased high due to samples collected on the same day as the blank.

- **Field duplicates**

Field duplicates have been collected at the proper frequency.

- ☐ Yes
- ☐ No
- ☐ NA

Field duplicate relative percent differences (RPDs) were within the required control limits (RPD of 20% or less for water matrix, 35% or less for soil matrix). If the sample or duplicate result is less than 5 times the PRDL, the RPD criteria are not used. In these cases, the difference between the sample and the duplicate results must be within \pm the PRDL for water matrix, within \pm 2 times the PRDL for soil matrix.

- ☐ Yes
- ☐ No
- ☐ NA

5. Laboratory Procedures

- **Laboratory procedures followed**

- ☐ CLP-SOW
- ☐ SW-846
- ☐ Methods for Chemical Analysis of Water and Wastes
- ☐ XRF Standard Operating Procedures
- ☐ Other

- **Holding times met**

- ☐ Yes
- ☐ No

Be sure to check both extraction and analysis holding times.

- **Consistency with project requirements**

Analyses were carried out as requested.

- ☐ Yes
- ☐ No

Project specified methods were used.

- ☐ Yes
- ☐ No
- ☐ NA

Clarify if the lab procedures are not the ones outlined in the SAP. If there were deviations, provide an explanation.

6. Detection Limits

- Reporting detection limits met project required detection limits (PRDLs).

- ☐ Yes
- ☐ No
- ☐ NA

Provide an explanation for any detection limits outside of the project requirements. For example:

In the first analyses of the water samples, the reporting limit(0.05) did not meet the PRDL (0.003). After contacting the lab, they agreed to reanalyze the samples at the project required detection limit of 0.003. However, two samples (WLM-GW02 and a DI blank) were not available for reanalysis so the first results were included in the database, and the representative quality control batch was incorporated in the validation.

7. Laboratory Blanks

Please note that the highest blank value associated with any particular analyte is the blank value used for the flagging process.

- **Preparation blanks**

Preparation blanks were prepared and analyzed at the required frequency.

☐ Yes

☐ No

If no, please provide an explanation. For example:

The frequency requirements for laboratory quality control samples (1/20) were not met with the exception of analytical batch 00-90835(2-14) of the first analyses. The frequency exceedance of each laboratory batch is as follows: waters—00-90835(1-27) (2nd analysis), 00-90730-1(25), 00-90731(1-25), 00-90732(1-24); there were no exceedances for the soil analyses.

All the analytes in the preparation blank were less than the CRDL (or the PRDL if a project detection limit has been specified).

☐ Yes

☐ No

8. Laboratory Matrix Spikes

- A matrix spike sample (pre-digestion) were prepared and analyzed at the required frequency.

☐ Yes

☐ No

If no, please provide an explanation. For example:

The frequency requirements for laboratory quality control samples (1/20) were not met with the exception of analytical batch 00-90835(2-14) of the first analyses. The frequency exceedance of each laboratory batch is as follows: water—00-90835(1-27) (2nd analysis), 00-90730(1-25), 00-90731(1-25), 00-90732(1-24); there were no exceedances for the soil analyses.

- Samples were spiked at levels appropriate to the sample concentrations.

☐ Yes

☐ No

- Matrix spike recoveries were within the required control limits (75-125%).

☐ Yes

☐ No

9. Laboratory Duplicates

- Laboratory duplicate samples were analyzed at the proper frequency.

☐ Yes

☐ No

If no, please provide an explanation. For example:

The frequency requirements for laboratory quality control samples (1/20) were not met with the exception of analytical batch 00-90835-2-14 of the first analyses. The frequency exceedance of each laboratory batch is as follows: waters—00-90835(1-27) (2nd analysis), 00-90730(1-25), 00-90732(1-24); there were no exceedances for the soil analyses.

- The laboratory duplicate relative percent differences (RPDs) were within the required control limits (RPD of 20% or less for water matrix, 35% or less for soil matrix). For low concentration data, that is if the sample or duplicate result is less than 5 times the PRDL, the RPD criteria are not used. In these cases, the difference between the sample and the duplicate results must be within \pm the PRDL for water matrix, within \pm 2 times the PRDL for soil matrix

☐ Yes

☐ No

10. Laboratory Control Standards

- The reference material used was of the correct matrix and concentration.

☐ Yes

☐ No

- LCSs were prepared and analyzed at the proper frequency.

☐ Yes

☐ No

If no, please provide an explanation. For example:

The frequency requirements for laboratory quality control samples (1/20) were not met with the exception of analytical batch 00-90835(2-14) of the first analyses. The frequency exceedance of each laboratory batch is as follows: 00-90835(1-27) (2nd analysis), 00-90730(1-25), 0090731(1-25), and 0090732(1-24).

- Laboratory control samples (LCSs) were prepared in the same way as the associated samples.

☐ Yes

☐ No

- LCS recoveries were within the required control limits (80-120% for water, within the certified range for soils).

☐ Yes

☐ No

11. Data Quality Objectives

- Project data quality objectives (DQO's) met.

___ Yes

___ No

Accuracy

The overall accuracy objectives were met, as 100% of the laboratory matrix spikes and laboratory control standards were within control limits.

Precision

The overall precision objectives were met, as 100% of the field and lab duplicates were within control limits.

Completeness

The overall completeness objectives were met, as 100% of the data were deemed valid.

DATA VALIDATION REPORT

Prepared by:

Reviewed by:

NOTE: This document is modeled after a form used by Hydrometrics, a Helena based consulting firm, in a report submitted to DEQ. It may require modification to meet specific project needs. In addition, DEQ may request additional information regarding the data validation and impacts to specific samples (i.e. are results biased high or low).